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The Sculptor's Compass

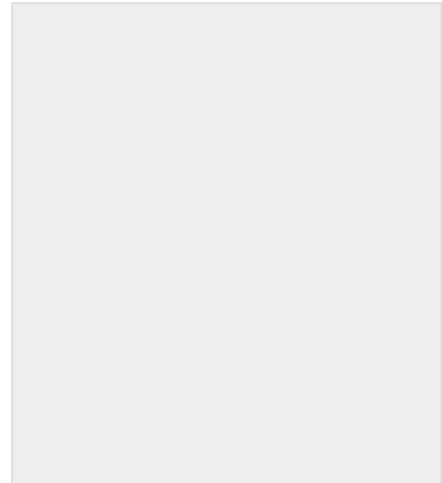
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By Lt. Darshan S. Thota, emergency department, Naval Medical Center San Diego



The most efficient emergency medicine (EM) physicians have a mental model or road map to guide them through the uncertainty of pathology. (U.S. Navy photo by PH2 Nathanael Miller)

As a new resident in Naval Medical Center San Diego's emergency department (ED), I'm starting to learn that serious and life-threatening conditions require rapid identification and intervention.




Response time is often stretched out due to additional services, existing policies, overcrowding and cost of care. The most efficient emergency medicine (EM) physicians have a mental model or road map to guide them through the uncertainty of pathology. I call my EM diagnostic paradigm the *Sculptor's Compass*.


My mental model frames medicine as a sea of uncertainty where physicians are captains sailing through stormy conditions of disease and pain trying to avoid hitting icebergs of death and suffering. While sailing, we reach for


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During my short time working in this fast paced, quick thinking and amazingly fun field, I have noticed that our ED model is completely different from the rest of the departments in the hospital.

a compass to help aid in navigation. In this model, my plan for how to approach the interchangeable patient is my compass.

During my short time working in this fast paced, quick thinking and amazingly fun field, I have noticed that our ED model is completely different from the rest of the departments in the hospital. For example, a friend who is a urology resident asked me to explain how ED personnel approach patient care. My friend

couldn't follow the ED thought process for consultations. I initially tried to use a metaphor of playing with a box of Legos. I explained that the emergency department diagnostic process is a lot like using Lego pieces to assemble a building. You take data points and put them together to see which pieces fit correctly to build a stable structure. The logical assembly hopefully forms a foundation for a reasonable diagnosis.

While explaining the Lego metaphor, it occurred to me that EM views patients and disease radically different from the rest of the medical staff at the hospital. Other medical fields want to know what a disease or injury comprises. In medical school we're taught how to use signs, symptoms, clinical gestalt, and test results to come up with a differential and ultimately determine the diagnosis. What is the diagnosis? What is the treatment? This process produces a very straightforward logical approach to sailing the seas of medical uncertainty.



Cutting away at the unknown to gain an analysis by ruling out possibilities is the daily work of an emergency physician. (U.S. Navy photo by MC2 Gary Granger Jr.)

In contrast, EM must often focus on what is NOT present. For example, if someone has severe chest pain and we can't definitively rule out acute microinfarction (MI), pulmonary embolism, pneumothorax, dissection or Boerhaave's, then we need to think hard about admission for further observation. This process is less like adding blocks to come to a pyramid of diagnosis and more like sculpting. It's the idea of negative space: taking a block of marble and cutting away everything that something is not, until you are left with something that is. You care what something is not, start cutting away and see the sculpture emerge trying to ensure no serious or life threatening event occurs.

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Often times in the ED, we're better at telling you what you don't have, rather than what you do have.(U.S. Navy photo by MC3 Pyoung K. Yi)

Cutting away at the unknown to gain an analysis by ruling out possibilities is the daily work of an emergency physician. A staff member told me that a good trick to help patients feel less overwhelmed when a verdict takes a long time is to smile at the patient and say, “You know, often times in the ED, we’re better at telling you what you don’t have, rather than what you do have.” This plan for approaching the undifferentiated patient is condensed into the metaphor of a Sculptor’s Compass.

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When I explained the Sculptor’s Compass approach to EM, my friend the urology resident said, “That makes so much sense now, you guys aren’t total morons, it’s how you think about things!” Mission accomplished! It was my first successful communication with a colleague from another specialty about the EM approach to medicine.

I believe that not only understanding EM, but explaining our mindset to some of our colleges using this archetype will simplify cross disciplinary understanding and lead to better patient outcomes. Personally, the compass paradigm is one of the most useful mental tools I have at my disposal. It provides a framework to approach EM and helps to navigate the seas of medical uncertainty.

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